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AUTHOR Vaughn, Sharon; Lancelotta, Gary
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ABSTRACT

The effectiveness of a cognitive-behavioral interpersonal problem solving (IPS) training program was evaluated with 35 poorly accepted second, third, and fourth graders. Group 1 received instruction in IPS and included only Ss low in peer acceptance; group 2 consisted of Ss low in peer acceptance who participated in IPS with same sex and grade Ss high in peer acceptance; and group 3 were contact control Ss low in peer acceptance who did not receive IPS but participated in games and activities. Dependent measures included the Social Problem Solving Test, Self-Evaluation Loneliness Scale, Classroom Inventory, and Teacher Rating of Peer Acceptance. IPS training focused on five major aspects; (1) establishing rapport, (2) identifying and using feelings, (3) understanding solutions in the long-run and short-run; (4) using four steps to solve problems, and (5) applying problem solving to group situations. Preliminary results pointed to significant differences in favor of the low social skills high/social skills (LS/HS) group when compared with the contact control group. There were no significant differences on peer ratings of acceptance between LS and LS/HS Ss. A reference list is appended. (CL)

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# An Interpersonal Problem Solving Approach to Teaching Social Skills to Socially Rejected Students

Sharon Vaughn

and

Gary Lancelotta

University of Miami
312 Merrick Building
Coral Gables, Fl. 33124

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Most teachers agree that the single most difficult problem students encounter in school is the ability to successfully develop and maintain positive relationships with others. The ability to make and maintain friends and prevent and solve interpersonal difficulties influences the child's perception of self, success in school, and later success in work experiences. Developing appropriate skills at an early age for interacting with others is important because poor early peer relations are indicative of social difficulties later in life (Kohn, 1977), and are associated with such negative outcomes as serious emotional problems (Cowen, Pederson, Babijian, Izzo, & Trost, 1972) and higher delinquency rates (Rolf, 1961).

Studies evaluating the efficacy of teaching interpersonal skills to young students have basically taken one of two approaches. One approach involves teaching cognitively-oriented interpersonal skills (Elardo & Caldwell, 1979; Sharp, 1981; Shure & Spivack, 1979, 1980), and the other stresses behaviorally-oriented social skills (Gottman, Gonso, & Schuler, 1976; LaGreca & Mesibov, 1981; LaGreca & Santogrossi, 1980). Research on learning strategies (e.g. Deshler, Alley, Warner, & Schumaker, 1981; Deshler, Schumaker, & Lenz, 1984; Deshler, Schumaker, Lenz, & Ellis, 1984) and social skills (Camp, Blom, Herbert, & Van DooRurchk, 1977; Meichenbaum, 1977; Ridley & Vaughn, 1982; Vaughn, Ridley, & Bullock, 1984) indicates the benefits of

combining both a cognitive and behavioral approach to skills instruction. A cognitive-behavioral approach focuses on teaching students self-questioning and self-monitoring strategies for identifying their interpersonal problems, generating a range of alternative solutions to those problems, monitoring their impulsivity, selecting a plan for solving the problem, and implementing the plan. Students are also taught to evaluate the plan, monitor their progress, and provide self-feedback and reinforcement. The process of learning these skills includes cooperative goal setting, modeling, role-playing, rehearsal, controled practice, and practice in naturalistic settings. A cognitive-behavioral approach to teaching interpersonal problem solving skills to young children has demonstrated: (a) children can be taught to cognitively generate alternative solutions to interpersonal problems (Ridley & Vaughn, 1982; Vaughn, Ridley, & Bullock, 1984); (b) children can be taught to implement these strategies in real problem situations (Ridley & Vaughn, 1982; Ridley & Vaughn, 1984); (c) the frequency of children's positive interactions with other children increases (Vaughn & Ridley, 1983); (d) students demonstrate higher skills in empathy (Ridley, Vaughn, & Wittman, 1983); and (e) students perceive themselves more positively (Ridley & Vaughn, 1984).

In addition to evaluating a cognitive-behavioral approach to intervention, this study compares the effects of

intervention with groups of students identified as low in peer acceptance with groups of students identified as low in peer acceptance but paired within their group with a same sex student from their class identified as high in peer acceptance. The rationale behind the use of peer-pairing is to improve the skills and social status of the student with low peer acceptance by giving them systematic opportunities to observe and interact in structured situations with students who have high peer acceptance. Social intervention programs with young children have used socially skillful peers to coach, initiate, and/or model desired behaviors with target students resulting in increases in social responding and initiation (Odom, Hoyson, Jamieson, & Strain, 1984; Odom & Strain, 1984; Odom, Strain, Karger, & Smith, 1986; Shafer, Egel, & Neef, 1984). In addition, reading and writing programs have reported positive gains when skilled role models work with less skilled students on cooperative tasks (Reeve & Brown, 1985; Scardamalia & Bereiter, 1982; Scardamalia, Bereiter, & Steinbach, 1984). Peers have also been used in intervention programs as a valid method of increasing appropriate behaviors in the classroom (Day, Powell, Dy-Lin, and Stowitschek, 1982; Strain, 1977; Strain, Hoyson, & Jamieson, 1985; Strain, Shores, and Timm, 1977). While there is mounting evidence of the efficacy of peers as intervention agents, little is known about their impact in group designs, nor whether involving highly accepted peers

in intervention groups is significantly more effective in increasing the IPS skills and social status of low accepting peers than intervention alone.

The purpose of this study was to evaluate the efficacy of a cognitive-behavioral IPS training program with poorly accepted second, third, and fourth graders, and furthermore, to determine the impact of highly accepted peers on the outcome of this training. Three groups of second, third, and fourth graders identified as low in peer acceptance were involved in this study. Group one consisted of students identified as low in peer acceptance and instructed in the cognitive-behavioral IPS training, group two consisted of students identified as low in peer acceptance who participate in the same training however, they were trained with same sex and grade students identified as high in peer acceptance, and group three consisted of a contact control group of students identified as low in peer acceptance and did not receive IPS training but participated in games and activities.

## Method

### Sample

The sample included 44 students from the second, third, and fourth grades of a school located on a U.S. military base in a rural northeastern New England town. Of these 44

students, 35 were identified through a sociometric measure as being low in social skills (LS), and 9 students were identified as high in social skills (HS). The sample of 44 students (27 males and 17 females), ranged in age from 7 years, 6 months to 10 years, 10 months, and was comprised of only children from military families. The sample included a wide range of socioeconomic levels from families in which the parents were enlisted personnel with a high school level of education, to those families in which the parents were high ranking officers with college level and advanced degrees.

Selection. All students enrolled in the second, third, and fourth grades (248 students) participated in the screening process for subject selection. The 35 LS students and 9 HS students identified for participation in this study were selected on the basis of a peer rating, group administered sociometric measure of peer acceptance (Oden and Asher, 1977). The selection process was conducted by a graduate student who received prior training in the administration of sociometric measures. All second, third, and fourth grade teachers were met with individually by this graduate student to discuss the sociometric measure and to establish a time for it to be administered. The selection measure was administered to all classes during the same week. One week prior to the administration of the peer rating of acceptance scale the graduate student met with

each second, third, and fourth grade class to play a fun activity with the children to establish rapport and prepare them for the peer rating scale.

Peer Rating of Acceptance. A standard sociometric rating of peer acceptance developed by Oden and Asher (1977) was used to assess peers' ratings of peers. The use of peer sociometric measures has been found to be a valid and reliable index of peer relations for both preschool and elementary school children (Asher & Hymel, 1981; Asher, Markell & Hymel, 1981). Peer ratings provide an evaluation of a child's social relations from the perspective of peers themselves, and provide information on a number of children in a short period of time (Hayvren & Hymel, 1984). In a study using second through seventh graders, peer sociometric ratings had high internal consistency and moderate concurrent validity (Pekarik, Prinz, Liebert, Weintraub, & Neale, 1976).

The peer rating of acceptance is a group administered measure of social status in which children are given a sheet of paper with the names of all their classmates printed on the left side and the numbers 1 through 5 next to each of their names. Children are instructed to circle the number for each classmate (1=not at all, 2=not much, 3=don't know, 4=pretty much, and 5=very much) that describes how much they would like to be friends with that classmate. This type of measure allows for the evaluation of each member of the

group by all other members. The peer rating of acceptance scale took approximately 15 minutes to administer to each class.

A peer acceptance score was obtained for each student by dividing the total score obtained from the same-sex peers by the highest possible score a child could obtain. A same-sex rating instead of a cross-sex rating was used because it has been found that children in the elementary grades prefer to socialize with members of the same sex (Gronlund, 1959), and also that same-sex bias confounds measures of acceptance of peers when cross-sex choices are utilized (Bruininks, Rynders, and Gross, 1974). Those students who obtained the three lowest peer acceptance scores in their class were considered eligible for participation in this project. A total of 43 students were identified as low in peer acceptance. Of these 43 students, three were excluded due to an expected family relocation in the near future, four were excluded due to lack of parental consent, and one student dropped out midway through the training due to an unexpected move. The total number identified as low in peer acceptance and included in this study was 35 students (mean sociometric rating = .59, SD = .12). Nine students were identified as high in social skills (mean sociometric rating = .92, SD = .05) and were selected based on their high peer ratings and teacher recommendations that they were able to serve as positive role models.

## Procedure

Assignment to intervention groups. Because intervention groups were comprised of students from several classes, assignment to group was influenced by location of the classroom in the school building. The size and design of the school separated classes into several wings, LS students from wing A of the school were randomly assigned to either experimental group I or experimental group II. There were 11 students assigned to experimental group I (6 males, 5 females), and 5 students assigned to experimental group II (3 males, 2 females). Experimental group II also included 4 HS students ( 2 males, 2 females) from the same classes as the LS students. Students from wing B were randomly assigned to either another experimental group II or to one of two contact control groups. Six LS students were assigned to the second experimental group II (5 males, 1 female) and 5 HS students (2 males, 3 females) from the same classes as the LS students, were assigned to the same group. LS students were assigned to each of the two contact control groups (CC1, 5 males, 2 females; CC2, 4 males, 2 females).

Students assigned to experimental group I received interpersonal problem solving (IPS) intervention and included only students identified as LS. Those LS students assigned to experimental group II received the same IPS training as the students in group I however, they participated in training with HS peers from their class.

Students assigned to the contact control goups included only LS students and they did not receive IPS training but participated in games and activities.

Dependent Measures

All students selected to participate in this study were individually tested during a two week period prior to and immediately following training on four measures: a test of social problem solving (Vaughn & Lancelotta, 1985), a self-evaluation "loneliness" scale (Asher, Hymel, & Renshaw, 1984), a teacher rating, The Classromm Behavior Inventory (Schaefer & Edgerton, 1978), and a teacher rating of peer acceptance (Oden & Asher, 1977). All testing was conducted by two university students trained for approximately 10 hours in the administration procedures of the tests. In addition, both persons administering the tests had take courses on test administration and had administered other similar tests to children. The order in which children were selected for testing was random and dependent upon times found most convenient for the teacher and the student. During the scheduling of times for testing, teachers were given a Classroom Behavior Inventory and asked to complete it for each child in their class participating in the study.

Social Problem Solving. The Social Problem Solving Test (Vaughn & Lancelotta, 1985) was designed to assess major components of social problem solving abilities: goal identification, alternative thinking, and consequential

thinking. The components have been identified as important to the development of successful IPS skills (Asarnow & Callan, 1985; Shure & Spivack, 1979;1980). The Social Problem Solving test (Vaughn & Lancelotta, 1985) is based upon the Preschool Interpersonal Problem Solving test (Spivack & Shure, 1974), the Behavioral Interpersonal Problem Solving test (Ridley & Vaughn, 1982), and the Stories Alternatives Test (Caldwell & Elardo, 1979) developed to assess a child's ability to use interpersonal problem solving in hypothetical social situations.

In the Problem Solving Test, children are given four hypothetical problem situations which are commonly encountered at school. The problems were based on aggressive situations and being included in peer games because these acts involved the major conflict situations listed by students (Asarnow & Callan, 1985)

1. The boy/girl sitting next to you in class leans over and tells you that s/he is going to beat you up after school. What could you do?
2. Your best friend is walking through the hall and another kid pushes him/her. The two kids begin fighting. You see the fight. What could you do?
3. You are playing ball on the playground with your friends. Another boy/girl comes up to you and says s/he wants the ball and begins to grab

it from you. What could you do?

4. You are standing by yourself on the playground and would like to join in a game being played by several of your classmates. What could you do?

Following the reading of each story/situation, a series of three questions is asked:

1. What could you do?
2. You said you could... (list the solutions to the problem offered by the student in question one. These are all the things you said you could do.

   Which would you choose to do?
3. What made you decide to.... (report the selected solution of the student) rather than (list all other solutions given in question one)?

These questions are asked in order to determine the total range of possible solutions a child is able to generate, the actual solution s/he would choose, and the reasons for choosing it. Procedures for probing, questioning, and administering the test are contained within the administration manual.

Students' responses to question one, alternative thinking, are coded according to one of 22 categories of responses, e.g. ask, threaten, tell, share, fight. Answers

to the first question are assessed by: 1. the toal number of different relevant solutions; and 2. the category of the answer, aggressive or nonaggressive. Students' responses to question two, goal identification, are coded according to the same 22 categories as those for question one. Students' responses to question three, consequential thinking, are coded according to five categories: 1. self-dependent short run; self solves the problem in the short run, e.g. I would push him down and take the ball away; 2. self-dependent long run; self solves the problem in the long run, e.g. I would ask if he would like to share; 3. other dependent; gets others to solve the problem, e.g. I would tell the teacher; 4. does not solve the problem, e.g. I would hide; and 5. I don't know.

Students receive ten separate scores on the Problem Solving Test. They receive a total number of alternatives generated as well as an aggression/nonaggression score for question one, a solution identification score for question two, and a score for each of the five categories of question three. Interrater reliability for scoring these three components was established as .90 (question one), .95 (question two), and .92 (question three).

Self-Evaluation Loneliness Scale. The loneliness scale (Asher, Hymel, & Renshaw, 1984) is a 16 item inventory that measures the degree to which children feel satisified with their peer relationships. Students are asked to identify on

a Likert scale of 1 to 5, the extent to which they agree with such statements as, e.g. "It's easy for me to make new friends at school", and "I'm lonely". Socially rejected children in grades three through six reported significantly more feelings of loneliness than children with average or above average peer acceptance levels (Asher, Hymel, & Renshaw, 1984). The loneliness scale has been found to be internally consistent (Cronbach's = .90) and internally reliable (split-half correlation between forms = .83; Spearman-Brown reliability coefficient = .91; Guttman split-half reliability coefficient = .91).

Classroom Behavior Inventory. An assessment of classroom behaviors as observed by the teacher was obtained from the administration of the Classroom Behavior Inventory (CBI) (Schaefer & Edgerton, 1978) both prior to and immediately following intervention. The CBI is a rating scale designed to measure 11 major dimensions of social and emotional behavior. These dimensions include: extroversion, creativity/curiosity, distractibility, independence, hostility, verbal intelligence, task orientation, introversion, consideration, dependence, and kindness/empathy. This rating scale contains 46 items and has been widely used with elementary students (Farel, 1980; Feagans & McKinney, 1981; Forman & McKinney, 1974; Kohn, 1977; McKinney & Forman, 1982). A composite score is obtained for each of the 11 above mentioned categories.

Reliability reports have established internal consistency to range from .75 to .96. Concurrent validity was shown by correlations with Bipolar Traits Rating Scales ranging from .78 to .84 (Schaefer & Edgerton, 1978).

Teacher Rating of Peer Acceptance. Based on a standard sociometric peer rating (Oden & Asher, 1977), the teacher rating scale of peer acceptance uses the same scoring procedures as the peer rating scale of peer acceptance (Oden & Asher, 1977). Teachers were asked to rate each child on a 1 to 5 scale (1=not at all, 2=not much, 3=don't know, 4=pretty much, and 5=very much) on how well-liked the teacher perceives the student to be by his/her same-sex peers. Children received a score (from 1 to 5) from the teachers both prior to and immediately following intervention.

Training

All groups, experimental and contact control, participated in 18 sessions of training (25 minutes per session), two sessions per week, over a 9 week period. Both experimental and contact control group students were met at their classroom by the training leader and escorted to a separate room for their program. The social skills training sessions were conducted by a graduate student who received 20 hours of training in the cognitive-behavioral social problem solving program.

Social problem solving training. The core curriculum

is based on a cognitive-behavioral approach to social problem solving skills training which has been conducted with such populations as students with mental retardation, aggressive students, preschoolers, and students with behavior problems (Ridley & Vaughn, 1982; Ridley & Vaughn, 1984; Ridley, Vaughn & Bullock, 1984; Ridley, Vaughn & Wittman, 1983; Vaughn & Ridley, 1983; Vaughn, Ridley, & Cox, 1983). The core components of the program include five major units: 1. establishing rapport, 2. Identifying and using feelings, 3. understanding solutions in the long-run and short-run, 4. four steps to solving problems, and 5. Problem solving situations: group integration. Utilized throughout the instruction in these five areas is role playing, modeling, feedback, coaching, rehearsal, practice in controlled settings, and homework assignments which encourage application in naturalistic settings. A brief description of the five components follows.

Establishing rapport. Lessons in building rapport were used to establish a supportive, cooperative environment, provide opportunities for success, and motivate students to attend the intervention.

Identifying and using feelings. Students are taught to identify feeling words, identify feelings in self and in others, to express feelings, and to identify the feelings of others. Role plays are used to provide practice in identifying, expressing, and reflecting feelings in self and

others.

Understanding solutions in the long-run and short-run. Children are taught to evaluate possible solutions to problems on the basis of their efficacy in the long-run and short-run. Students are taught to differentiate whether solutions solve problems in the long-run (e.g. If I say let's share he might become my friend) or in the short-run (e.g. If I beat him up, he'll give me the ball back). The use of coaching as well as role playing facilitates lessons on understanding solutions. In role play, children enact a situation, freeze the action of the role play before problem resolution, talk through the possible solutions with the group, decide which solutions solve the problem in the short-run and which solve the problem in the long-run, select an alternative, and then resume action of the role play to outcome. Outcomes are discussed and evaluated.

Four steps to solving problems: Self instruction. The purpose of these lessons was to teach children the process from the identificaton of the problem (or goal) to the acquisition of a desired evaluated outcome. Through role plays, coaching, rehearsal, and homework assignments, children learned to implement the following four steps.

1. Freeze! Don't act too quickly. What is the problem?
2. Alternatives! What are all my possible solutions?

3. Select One! What is the best solution in the long run.

4. Try it! What do I need to do to implement the solution? And if it doesn't work, what else can I try?

Students are taught to memorize the strategy "FAST" and to implement this 4-step skill sequence within the intervention training and in real life social situations. Students provide reports to the group of the success or failure of using this process in solving social difficulties.

Problem solving situations: Group integration. The integration of all of the above components was encouraged through group problem solving role plays and rehearsals. Students were given homework assignments related to practicing social skills training.

Contact Control Group Training. The contact control group subjects program consisted of activities such as memory games, story telling, and other activities not directly related to social skills training.

## Results

This paper reports the preliminary results from this investigation. A complete description of the results will be reported in a manuscript available from the authors.

Peer Acceptance Sociometric Test

One-way analysis of variance using pretest scores

indicated there were no significant differences between groups at pretest on peer popularity. Analysis of variance using posttest scores indicated signficant differences between the paired LS/HS group and the contact control group with the paired LS/HS group's peer popularity socres significantly higher than the contact control group. Data analysis on the paired LS/HS group was performed with LS students only.

Problem Solving Test

Analysis of variance was performed at pretest and posttest on all the dimensions of the problem solving test to determine significance between groups.

Total number of solutions. There were significant differences between the LS group and the contact control group at pretest on the total number of solutions to social problems. At posttest there were significant differences between the LS group and the contact control group and the paired LS/HS group and the contact control group.

Total nonforce solutions. There were no significant differences between groups at pretest on the total number of nonforce solutions. At posttest both the LS and the paired LS/HS group showed significant differences when compared with the contact control group on the total number of nonforce solutions.

Total force solutions. There were no significant differences between groups at pretest on the total number of

nonforce solutions. At posttest the paired LS/HS group showed significant differences when compared with the contact control group on the total number of force solutions.

Solution selected. There were no significant differences at pretest or posttest between the groups on the number of force or nonforce solutions selected.

Self or other dependent. There were no significant differences at pretest or posttest between the groups on the number of self or other dependent responses.

Self-Evaluation Loneliness Scale

There were significant differences at pretest and posttest between groups on the loneliness scale.

## Discussion

Changes in the status of low acceptance peers seem to occur only when there are systematic opportunities for positive interactions with peers identified as highly popular (Bierman & Furman, 1984) because peers exert a strong influence on the behavior of members of its group (Tremblay, Strain, Henrikson, & Shores, 1981). Probably the most important finding so far in this study was the significant differences in favor of the LS/HS group when compared with the contact control group. This indicates a positive change in the way the low peer accepted students were perceived by others in their classroom from pretest to

posttest. Significant group changes in sociometric measures are difficult to acquire and lend evidence to the change in behavior of the students participating in the group. A number of factors in addition to training, may have affected this outcome. It could also be that students in the classroom not participating in training perceived the LS students more favorably because of their selection to participate in a program with HS students. This explanation seems unlikely however in light of the lack of significant findings between LS and LS/HS groups.

Hallinan & Sorensen (1985) in a study investigating the effects of ability grouping on friendships found that being a member of the same ability group increases the likelihood students within that group will become friends and these groups become more cohesive over time. There are several implications from the Hallinan & Sorensen study for the present study. First, is it possibile to get these same results when the members of the group are focusing on social skills? In this study, the authors and the classroom teachers made no distinction to students about why they were being selected to participate in the training. All of the students were informed of their selection in a way that it was considered a priveledge. Preliminary results show no significant differences on peer ratings of acceptance between LS and LS/HS students. Thus, having students who were the social leaders of the class in their group with

them did not significantly affect results when compared with LS students trained with each other. There are several possible explanations for this finding. It could be that while HS students participated with LS students their interactions did not continue in the classroom or on the playground. It is also possible that since training groups were not started until midway through the school year that friendship groups were already established and difficult to change. It could also be that gains in peer acceptance may continue to escalate after training, since the Halinan & Sorensen study indicated that cohesion of friendships escalated over time. Perhaps followup testing would yield gains for the LS/HS group. At this time, additional data analysis is needed to further interpret and discuss ther results of this study.

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